



Gamification in Higher Education EFL: Integrating Duolingo and Kahoot to Enhance Motivation

Fauziah Tanjung¹, Masruddin², Jufriadi³

^{1,2,3} State Islamic University of Palopo, Palopo

Article Info	Abstract
Received: 2026 - 06- 01 Revised: 2026 06-18 Accepted: 2026 06-23	<i>This study investigates the effect of gamification on the motivation of English as a Foreign Language (EFL) learners at UIN Palopo. Although previous studies have shown the benefits of gamification in language learning, limited research has explored the combined use of Duolingo and Kahoot among adult EFL learners in higher education. This study employed a quasi-experimental pretest-posttest control group design with a mixed-methods approach involving 34 second-semester accounting students divided into an experimental group and a control group. The experimental group received instruction through Duolingo and Kahoot, while the control group received conventional instruction. Data were collected using a 13-item motivation questionnaire and classroom observations. Quantitative data were analyzed using descriptive statistics and paired-samples t-tests, while qualitative data were analyzed through observation notes. The results revealed a significant improvement in students' motivation in the experimental group, with mean scores increasing from 38.82 to 54.12 ($t = -22.695$, $p < .001$). Classroom observations also showed higher levels of engagement, participation, autonomy, and enthusiasm during gamified learning activities. These findings suggest that integrating Duolingo and Kahoot can effectively enhance EFL learners' motivation and create a more engaging learning environment in higher education. Therefore, educators are encouraged to incorporate gamification strategies into EFL classrooms to support student motivation and active participation.</i>
Keywords: Gamification; Motivation; EFL Learners	
DOI: 10.24256/ideasv14i1.7871	
Corresponding Author: Fauziah Tanjung fauziahtanjung222@gmail l.com State Islamic Institute of Palopo, Palopo,	

1. Introduction

The education landscape has undergone a profound transformation in recent years, The role of technology media is needed in the learning process, where media is not merely a tool but an integral part of the educational system and learning process.(Masruddin 2014). In Indonesia, where English proficiency is increasingly vital for academic and professional success, motivating learners remains a

persistent challenge. Traditional instructional methods often fail to sustain student interest, leading to decreased engagement and suboptimal learning outcomes.

Motivation is a critical factor as it influences the effort and persistence learners invest in their studies. Traditional language instruction methods may not sufficiently engage students, leading to a decline in motivation and, consequently, in learning outcomes. The fundamental challenge of low learning motivation in EFL instruction in Indonesian higher education often stems from a conventional pedagogical approach that is still teacher-centered, focused on lectures, memorization, and standardized tests, thereby creating a passive environment that fails to spark students' intrinsic engagement or relevance to their digital world (Sari and Nurani 2021). As research indicates that this conventional model is increasingly ineffective in reaching today's generation of learners (digital natives), who desire interactivity, immediate feedback, and personalized learning experiences. Therefore, gamification emerges as a potential tool to transform this learning environment by incorporating game elements such as tiered challenges, points systems, and healthy competition to foster motivation and autonomy (Pratama, Silitonga, and Jou 2021).

Gamification has gained recognition as an effective strategy to enhance motivation and learning outcomes by incorporating game elements like points, badges, and leaderboards into educational settings. International studies, such as (Bander Sahari & Fawaz Al Mahmud 2024) in Jeddah public schools and (Csikszentmihalyi 1990) in primary education have shown that gamification enhances engagement and vocabulary acquisition. Similarly, research by (Hashim, Rafiq, and Yunus 2019) on ESL learners' grammar skills and (Habibie, 2020) on Duolingo's motivational impact further validate its effectiveness. However, research has largely overlooked adult EFL learners, leaving a gap in understanding how gamification impacts their unique motivational dynamics.

Motivation is widely recognized as one of the most important factors influencing language learning success. According to Self-Determination Theory (Deci & Ryan, 2000), learners are more motivated when their needs for autonomy, competence, and relatedness are fulfilled. In EFL classrooms, students often experience low motivation due to repetitive learning activities and limited opportunities for meaningful interaction. Therefore, instructional strategies that promote active participation and enjoyment are needed to increase students' engagement and persistence in learning English.

Gamification has emerged as an innovative approach that integrates game elements such as points, badges, leaderboards, challenges, and immediate feedback into educational contexts. These features can increase learners' sense of achievement and encourage active involvement in the learning process. Among the many gamification tools available, Duolingo and Kahoot are particularly popular because they provide interactive learning experiences, instant feedback, and opportunities for both independent and collaborative learning.

Although previous studies have examined the impact of gamification on vocabulary acquisition, grammar learning, and classroom engagement, most research has focused on school-aged learners. Studies investigating the combined use of Duolingo and Kahoot among adult EFL learners in higher education remain limited. Furthermore, few studies have explored how these platforms influence students' motivation in Indonesian university contexts. Therefore, this study seeks to fill this gap by examining the effectiveness of Duolingo and Kahoot in enhancing the motivation of accounting students at UIN Palopo. This study addresses that gap by investigating the effect of gamification tools specifically Kahoot and Duolingo on the motivation of adult EFL learners in the Accounting Department at UIN Palopo. The research seeks to determine whether these tools can significantly enhance motivation and how they influence learners' engagement and autonomous learning behaviors. By focusing on adult learners, this study contributes to the broader discourse on technology-enhanced language learning and offers practical insights for educators in similar contexts.

2. Method

This study employed a quasi-experimental design with a pretest-posttest control group to investigate the effect of gamification tools (Kahoot and Duolingo) on the motivation of EFL learners at UIN Palopo. A mixed-methods approach was adopted, combining quantitative and qualitative data to provide a comprehensive understanding of the motivational changes.

Research Design

The research followed a non-equivalent control group design, where two intact classes were assigned as the experimental and control groups. The experimental group received gamified instruction using Kahoot and Duolingo, while the control group continued with conventional teaching methods. The design is summarized in the table below:

Table 1. Research Design

Group	Pretest	Treatment	Posttest
Experimental	O ₁	X	O ₂
Control	O ₃	-	O ₄

Where:

1. O₁, O₃: Motivation pretest scores for both groups.
2. X: Implementation of gamification tools (Kahoot and Duolingo).

3. O₂, O₄: Motivation posttest scores for both groups.

Participants

The participants consisted of 34 second-semester accounting students from UIN Palopo, divided into two groups:

- Experimental group: 17 students who received gamified instruction.
- Control group: 17 students who received traditional instruction.

Purposive sampling was used to select participants based on their enrollment in the same program and semester, ensuring comparable language proficiency and learning backgrounds.

Instruments and Procedures

Data were collected using the following instruments:

1. Motivation Questionnaire: A Likert-scale questionnaire consisting of 13 items measuring motivation levels. The instrument was validated by an expert lecturer from UIN Palopo.
2. Observation Checklist: A structured checklist used to record behavioral indicators of motivation during classroom activities, including enthusiasm, social interaction, response to feedback, and competitive participation.

The study was conducted over four sessions:

3. First Meeting: Pretest questionnaires were administered to both groups to measure baseline motivation.
4. Second and Third Meetings: The experimental group engaged in gamified activities using Duolingo for vocabulary practice and Kahoot for review quizzes. The control group continued with conventional instruction.
5. Fourth Meeting: Posttest questionnaires were administered to both groups. Classroom observations were conducted throughout the sessions to document behavioral engagement.

Ethical Considerations

Informed consent was obtained from all participants. Participants were fully informed about the study's objectives and procedures. Oral consent was obtained before data collection. The study was conducted in line with UIN Palopo's research ethics guidelines, ensuring that no harm came to participants during or after the research process.

3. Result

Quantitative Analysis of Motivation Levels

This study employed a quasi-experimental pretest-posttest design to

investigate the effect of gamification tools (Kahoot and Duolingo) on the motivation of EFL learners at UIN Palopo. A total of 34 second-semester accounting students were divided into experimental and control groups, each consisting of 17 participants. The experimental group received gamified instruction, while the control group followed traditional learning methods.

Quantitative data were collected using a Likert-scale motivation questionnaire administered before and after the intervention. The quantitative data, collected through pre-test and post-test questionnaires, were analyzed using descriptive and inferential statistics via SPSS. The key findings are presented below.

Table 2. Descriptive Statistics of Pre-Test and Post-Test Scores

Group	N	Minimum	Maximum	Mean	Standard Deviation
Pre-Test Exp	17	34	43	38.82	2.506
Post-Test Exp	17	46	63	54.12	4.442
Pre-Test Cont	17	29	38	32.71	2.889
Post-Test Cont	17	38	50	43.82	3.026

As illustrated in Table 2, both groups showed an increase in motivation scores from pre-test to post-test. However, the experimental group, which received gamified instruction using Kahoot and Duolingo, demonstrated a substantially greater mean increase (15.30 points) compared to the control group (11.11 points).

Prior to conducting inferential analysis, prerequisite tests were performed. The Shapiro-Wilk test confirmed that the data were normally distributed ($p > 0.05$ for all groups). Furthermore, Levene's Test for homogeneity of variances indicated that the variances between groups were equal ($p = 0.157 > 0.05$), satisfying the assumptions for parametric testing.

A paired samples t-test was conducted to evaluate the impact of the gamification treatment on students' motivation scores in the experimental group.

Table 3. Paired Samples T-Test for Experimental Group

Test	Mean Difference	t-value	df	p-value (Sig. 2-tailed)	Correlation (r)
Pre-Test vs post-test	-15.294	-22.695	16	.000	0.822

The results in Table 3 reveal a statistically significant difference between the pre-test ($M=38.82$, $SD=2.506$) and post-test ($M=54.12$, $SD=4.442$) scores; $t(16) = -22.695$, $p = .000$. The strong positive correlation ($r = 0.822$, $p < .01$) indicates that students who had higher initial motivation also tended to achieve higher post-test scores after the intervention.

The validity of the research instrument was also confirmed. For both the control and experimental groups, the correlation between pre-test and post-test scores was significant at the 0.01 level ($r = .787$ and $r = .822$, respectively), demonstrating the consistency and reliability of the questionnaire used to measure motivation.

In conclusion, the quantitative analysis provides robust evidence that the integration of Kahoot and Duolingo significantly enhanced the motivation of EFL learners in the experimental group compared to their counterparts in the control group who received traditional instruction.

4. Discussion

The findings of this study demonstrate that the integration of Duolingo and Kahoot significantly improved students' motivation to learn English. The substantial increase in motivation scores suggests that gamification can create a more engaging and enjoyable learning environment than traditional instructional approaches. This finding is consistent with previous studies showing that gamified learning environments enhance learner engagement, participation, and motivation in language learning contexts (Dichev & Dicheva, 2017; Hamari et al., 2014; Subhash & Cudney, 2018).

The results can also be interpreted through the lens of Self-Determination Theory (SDT), which posits that learners become more intrinsically motivated when their needs for autonomy, competence, and relatedness are fulfilled (Deci & Ryan, 2000). In this study, Duolingo allowed students to practice English independently and monitor their own progress, thereby fostering autonomy. Meanwhile, Kahoot provided immediate feedback, rewards, and competitive challenges that strengthened students' sense of competence. Collaborative

classroom activities also promoted interaction among learners, supporting the need for relatedness. These findings align with previous research indicating that gamification enhances motivation by satisfying learners' psychological needs (Sailer et al., 2017; Mekler et al., 2017).

The qualitative findings further support the quantitative results. Students reported greater enthusiasm, enjoyment, and willingness to participate in classroom activities when Duolingo and Kahoot were incorporated into instruction. This finding supports the argument that game-based learning can reduce boredom and increase attention by providing meaningful challenges and instant feedback (Gee, 2003; Kapp, 2012). Moreover, the visual and interactive features of both platforms appear to facilitate a positive learning atmosphere, encouraging students to remain engaged throughout the learning process. Similar findings have been reported by Wang and Tahir (2020), who found that Kahoot significantly increased student engagement and classroom participation across various educational settings.

Another important finding is that gamification encouraged learners to take greater responsibility for their learning. Through Duolingo, students were able to access learning materials outside the classroom and continue practicing independently. This supports previous studies suggesting that digital gamified applications can promote learner autonomy and self-regulated learning (Godwin-Jones, 2011; Gafni et al., 2017). As a result, students became more confident in managing their own learning progress and developing consistent learning habits.

Despite these positive outcomes, several limitations should be acknowledged. The study involved a relatively small sample drawn from one study program at a single university, which may limit the generalizability of the findings. In addition, the intervention was conducted over a relatively short period, making it difficult to determine the long-term effects of gamification on motivation. Technical challenges such as internet connectivity and device accessibility may also have influenced students' learning experiences. Future studies should include larger and more diverse samples, longer intervention periods, and additional variables such as language achievement, learner autonomy, and digital literacy.

Overall, the findings indicate that Duolingo and Kahoot can serve as effective gamification tools for enhancing EFL learners' motivation in higher education. By providing interactive activities, immediate feedback, and opportunities for autonomous learning, these platforms contribute to a more engaging and student-centered learning environment. Therefore, EFL instructors are encouraged to integrate gamification strategically to support both motivation and active participation in language learning.

5. Conclusion

This study investigated the effect of integrating gamification tools specifically Kahoot and Duolingo on the motivation of adult EFL learners in the Accounting

Department at UIN Palopo. Employing a quasi-experimental pretest-posttest design with a mixed-methods approach, the research yielded clear and significant findings.

Quantitative data analysis revealed a statistically significant increase in the motivation levels of the experimental group. The mean motivation score rose from 38.82 in the pretest to 54.12 in the posttest. This improvement was strongly supported by a paired samples t-test result ($t = -22.695$, $p = 0.000 < 0.05$) and a high correlation coefficient ($r = 0.822$), confirming that the change was substantial and not due to chance. In contrast, the control group, which received traditional instruction, showed a more modest increase (from 32.71 to 43.82), underscoring the effectiveness of the gamified intervention.

Qualitative data from classroom observations provided rich, contextual evidence that aligned with the quantitative results. The experimental group exhibited markedly higher levels of behavioral engagement, including greater enthusiasm, active participation in collaborative problem-solving, positive responses to competitive elements like leaderboards, and increased persistence in overcoming challenges. These behaviors directly reflect the fulfillment of key psychological needs outlined in Self-Determination Theory autonomy, competence, and relatedness and demonstrate the intrinsic motivation triggers from Malone's theory, such as challenge and curiosity.

The study successfully addresses its research questions: (1) The use of Kahoot and Duolingo does significantly influence the motivation of EFL learners at UIN Palopo, and (2) It influences motivation by creating a more engaging, enjoyable, and socially interactive learning environment that promotes autonomy, provides immediate feedback, and fosters a sense of competence and relatedness among learners.

However, it is important to acknowledge the limitations of this study. The findings are based on a relatively small sample size ($N=34$) from a specific department and university, which cautions against broad generalizations. Furthermore, the implementation faced technical challenges, such as unstable internet connectivity and varying access to digital devices, which Teachers should also consider the technical readiness of their classrooms and provide support for students who may lack access to adequate devices or internet connections, ensuring equitable learning opportunities for all students.

7. References

- Bander Sahari, & Al Mahmud, F. (2024). The role of gamification in enhancing students' motivation toward learning English in Jeddah public schools. *International Journal of English Linguistics*, 14(6), 46. <https://doi.org/10.26436/hjuoz.2024.12.3.1361>
- Bani, M., & Masruddin, M. (2021). Development of Android-based harmonic oscillation pocket book for senior high school students. *JOTSE: Journal of Technology and Science Education*, 11(1), 93-103.

- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268.
- Dichev, C., & Dicheva, D. (2017). Gamifying education: What is known, what is believed and what remains uncertain. *International Journal of Educational Technology in Higher Education*, 14(1), 1–36.
- Furwana, D., Muin, F. R., Zainuddin, A. A., & Mulyani, A. G. (2024). Unlocking the Potential: Exploring the Impact of Online Assessment in English Language Teaching. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 12(1), 653-662.
- Gafni, R., Achituv, D. B., & Rahmani, G. (2017). Learning foreign languages using mobile applications. *Journal of Information Technology Education: Research*, 16, 301–317.
- Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. New York: Palgrave Macmillan.
- Godwin-Jones, R. (2011). Emerging technologies: Autonomous language learning. *Language Learning & Technology*, 15(3), 4–11.
- Habibie, A. (2020). Duolingo as an educational language tool to enhance EFL students’ motivation in writing. *British (Jurnal Bahasa dan Sastra Inggris)*, 9(1), 13–26.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? A literature review of empirical studies on gamification. In *Proceedings of the 47th Hawaii International Conference on System Sciences* (pp. 3025–3034).
- Hashim, H., Rafiq, K. R. M., & Yunus, M. M. (2019). Improving ESL learners’ grammar with gamified-learning. *Arab World English Journal*, Special Issue on CALL, 5, 41–50. <https://doi.org/10.24093/awej/call5.4>
- Kapp, K. M. (2012). *The gamification of learning and instruction*. San Francisco, CA: Pfeiffer.
- Masruddin, M. (2014). The importance of using technology in English teaching and learning. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 2(2).
- Mekler, E. D., Brühlmann, F., Tuch, A. N., & Opwis, K. (2017). Towards understanding the effects of individual gamification elements on intrinsic motivation and performance. *Computers in Human Behavior*, 71, 525–534.
- Mekler, E. D., Brühlmann, F., Tuch, A. N., & Opwis, K. (2017). Towards understanding the effects of individual gamification elements on intrinsic motivation and performance. *Computers in Human Behavior*, 71, 525–534.
- Pratama, F. A., Silitonga, R. M., & Jou, Y.-T. (2021). RIMIGS: The impact of gamification on students’ motivation and performance in programming class. *Indonesian Journal of Electrical Engineering and Computer Science*, 24(3), 1789–1795.
- Pratama, F. A., Silitonga, R. M., & Jou, Y.-T. (2021). RIMIGS: The impact of gamification on students’ motivation and performance in programming class. *Indonesian Journal of Electrical Engineering and Computer Science*, 24(3), 1789–1795.

- Sailer, M., Hense, J., Mayr, S., & Mandl, H. (2017). How gamification motivates: An experimental study of the effects of specific game design elements on psychological need satisfaction. *Computers in Human Behavior*, 69, 371–380.
- Sari, R. K., & Nurani, S. (2021). Quizizz atau Kahoot, gamifikasi dalam pembelajaran bahasa Inggris. *Jurnal Pendidikan dan Kebudayaan (JURDIKBUD)*, 1(3), 78–86.
- Subhash, S., & Cudney, E. A. (2018). Gamified learning in higher education: A systematic review of the literature. *Computers in Human Behavior*, 87, 192–206.
- Wang, A. I., & Tahir, R. (2020). The effect of using Kahoot! for learning: A literature review. *Computers & Education*, 149, 103818.